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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/678,249      | 10/03/2003  | Gary William Yeager  | 133816-1            | 2016             |

23413 7590 02/24/2005

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EXAMINER

TRUONG, DUC

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1711

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                      |  |
|------------------------------|--------------------------------------|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/678,249 | <b>Applicant(s)</b><br>YEAGER ET AL. |  |
|                              | <b>Examiner</b><br>Duc Truong        | <b>Art Unit</b><br>1711              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 27, 28 and 33-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 and 29-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

### DETAILED ACTION

Note that claim 32 is duplicate of claim 31. Please amend the claim 32 or cancel it in the response to the Office action.

Based on Applicant's arguments in the response to the Office action, the claims have been regrouped, as follows:

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-26, 29-32, drawn to a composition and method of making ,  
classified in class 528, subclass 176.
- II. Claims 27-28, drawn to another composition, classified in class 525,  
subclass 242.
- III. Claims 33-36, drawn to a composition of group I having a metallophorous  
flame retardant, classified in class 525, subclass 255.

Applicant elects group I without traverse, as proposed by Applicant, claims 1-26 and 29-32.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-26 and 29-32 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Merfeld et al of record on 1449.

The reference discloses a curable composition includes a functionalized poly(arylene ether) (see [0014] ) has been capped [0015 et seq;], ethylene ethyl acrylate copolymers (see [0084], alkenyl aromatic monomer may comprise polybutadiene---[0068].

The composition may further comprising an additive selected from flame retardants, lubricants, antioxidants, thermal stabilizers, ultraviolet stabilizers, pigments, dyes, anti-static agents----[0119], suitable to form articles [0133-0134]

Claims 1, 7-20, 22-26 and 29-32 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Snodgrass et al.

The reference discloses polyblends containing between 75 and 99% by wt of a thermoplastic resin matrix, said resin matrix consisting of polyphenylene oxide resin by itself or in combination with alkenyl aromatic resins, and 1-25% by weight of poly(ethylene-co-organic acid ester) resin (see col. 1, lines 35-43) such as ethylene ethyl acrylate (see col. 3, line22-27).

Note that the alkenyl aromatic polymer can be copolymerized with a conjugated diene such as butadiene (see col. 2, line 51 et seq.).

Note also that the mixtures may contain other additives to plasticize, lubricate, dye, pigment, flame retardants---(see col. 4, lines 3-7).

Note also that the reactants and the steps of the process have been disclosed in the examples of the references.

The disclosures of the references differ from the instant claims in that they do not disclose the claimed characteristics such as intrinsic viscosity, solubility parameter, UL-94 flammability, tensile strength, tensile elongation at break----

However, the compositions disclosed by the references are prepared from reactants and under process conditions that are inclusive of the claimed reactants and conditions. In view of this similarity, it would appear to be inherent that the products having the claimed properties could be prepared following the teachings of the references.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-26 and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeager et al'782.

The reference discloses a capped poly(phenylene ether) resin composition comprising a functionalized poly(arylene ether) and a curable unsaturated monomer composition. (see Abstract, col. 4, line 60 onto col. 5, line 10. The composition optionally contains a polymerization catalyst, a flame retardant compound; and fibrous reinforcement (see Abstract).

Note that the functionalized poly(arylene ether) is a capped poly(arylene ether) has been disclosed at col. 6, line 15 et seq., as required in claim 2.

Note also that the curable unsaturated monomer composition includes compounds containing a single polymerizable C-C double bond such as methyl acrylate, (see col. 9, line 5) and compounds containing more than one polymerizable C-C double bonds (see col. 8, lines 60-65).

Note also that the unsaturated polymer may contain a thermoplastic elastomer such as linear or graft type block copolymers --- (see col. 10, lines 19-49).

The disclosure of the reference differs from the instant claims in that it does not disclose the claimed olefin-alkyl(meth) acrylate copolymer.

However, the reference does disclose the use of an alkyl acrylate monomer, such as methyl acrylate monomer, as stated above. And further the presence of homopolymers or copolymers of ethylene (see col. 10, lines 42-43).

Note also that the instant claim 9 does disclose that the olefin alkyl(meth)acrylate copolymer is the polymerization product of an olefin and an alkyl(meth)acrylate; and the reference does disclose the copolymers of ethylene (see col. 10, lines 42-43) and the methyl methacrylate (see col. 9, line 5).

Therefore, it would have been obvious to one of ordinary skill in the art to copolymerize an olefin such as ethylene and a methyl methacrylate from the reference to form the claimed olefin-methyl methacrylate copolymer of the instant claims, with the claimed functionalized poly(arylene ether), to form the claimed composition, since they have been shown to be effective in a similar system and thus would have been

expected to provide adequate results. There is no showing of unexpected results derived from said use.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Truong whose telephone number is 571-272-1081. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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DUCTRUONG  
PRIMARY EXAMINER